

REMARKS/ARGUMENTSAmendments.

Claims 28-56 have been amended (claims 34-36, 41, 44-45 and 55-56 having been canceled). New claims 57-73 have been added. The specification has been amended. It is submitted that the amendments made, coupled with the Remarks below, overcome the Examiner's objections and rejections, for the reasons discussed in detail below. Insofar as the requested amendments restrict or change the scope of the claims or of the disclosure, they have been made without prejudice to Applicant's right to prosecute one or more continuing applications containing broader and/or different claims, and/or broader and/or different disclosure.

Remarks

The final Office Action mailed October 20, 2003, made a number of objections and rejections based upon the Examiner's perception that the original disclosure in the PCT application did not contain support for certain of the amendments requested in the Reply mailed August 18, 2003 (in response to the Office Action mailed June 18, 2003). In the Advisory Action mailed March 11, 2004 (following consideration of the Reply mailed February 20, 2004, to the final Office Action), the Examiner agreed that the original disclosure did provide support for some of the amendments to which he had previously objected, but refused to enter the amendments requested in that Reply, and stated that this rendered Applicant's other arguments moot.

The Examiner's objections and rejections, as set out in the final Office Action mailed October 20, 2003, are reviewed in turn below in paragraphs designated RCE(A) to RCE(O).

RCE (A)

The Examiner objected that there was no support for the references, in the amendment requested in paragraph 8 of the Reply mailed August 18, 2003, to specific areas of improvement in the properties of the insulated wire. The amendment in question has been replaced by a new amendment which does not refer to the specific areas of improvement [see amendments 24 (RCE) and 25 (RCE) above].

RCE (B)

The Examiner objected that there was no support for the references to "non-polymeric" components in the claims and in the corresponding passages in the specification.

The claims and the corresponding passages in the specification have been further amended to remove the references to non-polymeric components, as discussed in detail in paragraphs 1-3 below.

1. Claims 28, 37 and 51, and the claims dependent thereon.

The first of the independent claims, claim 28, and the corresponding statement in the specification of the first aspect of the invention, and independent claims 37 and 51, have been amended so that they now refer to "additive components" rather than "non-polymeric components." It is submitted that there is support for such references in the following passages in the PCT specification.

Page 3, line 14 (page 3, line 15 of the published PCT specification)

Page 4, lines 10-16 (page 4, lines 12-18, of the published PCT specification)

Page 6, lines 10-15 (page 6, lines 14 -19, of the published PCT specification)

Page 9, lines 1-12 (page 10, lines 1 -10, of the published PCT specification)

Page 3, lines 12-14, refers to "the polymeric portion" of the polyolefin-based formulation (i.e., in the language of the amended specification, the polymeric component of the first composition), thus indicating that the formulation may contain another portion in addition to the polymeric portion. This is confirmed and amplified by Page 4, lines 10-16, which states that the "polyolefin-based layer (i), in addition to the polymeric portion . . . may contain whatever else is required in the way of additives such as antioxidants, pigments, fillers, flame retardant, etc., as known per se, to give the required mechanical, thermal, electrical etc. properties to the polymer". In this passage, the phrase "additives such as" clearly contemplates the use of additives which are not in one of the specific classes of additive explicitly mentioned. Further confirmation and amplification is provided by page 9, lines 1-5, which refers to the presence in the polyolefin-based material of "usual other additives . . . including cross-linking promoters, stabilizers, antioxidants, pigments and process aids". Again, the phrase "usual other additives . . . including" clearly contemplates the use of additives which are not in one of the specific classes of additive explicitly mentioned. It is submitted, therefore, that these passages provide clear support for collectively designating the optional additives in the first polymeric composition as an "additive component", without restriction to the specific classes of additive explicitly mentioned.

Page 4, lines 15-16, discloses that the "polyvinylidene fluoride-based layer" (i.e., in the language of the amended specification, the second polymeric composition) "may contain other additives as known per se to give it required properties in addition to bonding". The

antecedents for "additives as known per se" and "required properties" clearly are the "additives . . . as known per se" and the "required . . . properties to the polymer" in the immediately preceding paragraph. Thus this passage discloses the possibility that the second polymeric composition optionally contains additives of any kind. This is confirmed and amplified by page 9, lines 6-10, which refers to the presence in the second polymeric composition of cross-linking promoters and "other known additives such as pigments, plasticizers, stabilizers, antioxidants and process aids". The phrase "other known additives such as" clearly contemplates the use of additives which are not in one of the specific classes of additive explicitly mentioned. It is submitted, therefore, that these passages provide clear support for collectively designating the optional additives in the second polymeric composition as an "additive component", without restriction to the specific classes of additive explicitly mentioned.

2. Claim 62, 68 and 71, and the claims dependent thereon.

New independent claim 62 and the corresponding statement in the specification of the second aspect of the invention, and claims 68 and 71, do not refer to a "non-polymeric component" or to an "additive component". Rather they define the first and second polymeric compositions as "comprising" the defined first or second polymeric component. Thus, these claims are similar in form to (though much more limited in scope than) claim 1 in the PCT application. They are distinguished from the prior art previously relied on for the reasons previously presented in the Reply mailed August 18, 2003, and accepted by the Examiner, namely

- (1) that the first layer of insulation contains at least 60% by weight of the carbonyl-containing polymer [Claim 28, the broadest claim previously considered by the Examiner requires (like PCT claim 2) that the first layer of insulation contains at least 60% by weight, *based on the weight of the polymeric component*, of the carbonyl-containing polymer, and claims 62, 68 and 71 are somewhat narrower in that they require (like PCT claim 1) that the first layer of insulation contains at least 60% by weight, *based on the weight of the composition* (i.e. the weight of the polymers and of any additives in the composition) of the carbonyl-containing polymer];
- (2) that the second layer contains at least 50% by weight of PVDF or a VDF copolymer; and
- (3) that the first layer is positioned between the conductor and the second layer.

3. Claims 72-73.

New independent claim 72 and the corresponding statement in the specification of the third aspect of the invention, do not refer to a "non-polymeric component" or to an "additive component". Rather they define the first and second polymeric compositions as consisting of the defined first or second polymeric component and one or more of the additives explicitly named in the passages noted above. New claim 73, which is dependent on claim 72, restricts the additives in the first polymeric composition to the additives explicitly named on page 4, line 12, page 6, lines 11-12, and page 9, lines 4-5, and the additives in the second polymeric composition to the additives explicitly named on page 6, lines 11-12, and page 9, lines 9-10.

RCE (C)

The Examiner objected that there is no support for a carbonyl-containing polymer that does not have a non-aromatic backbone. It is submitted that there is indeed such support. There is a single passage in the PCT specification which refers to the carbonyl-containing polymer as having a non-aromatic backbone (see page 2, line 20). Everywhere else, the carbonyl-containing polymer is referred to simply as a carbonyl-containing polymer, without any restriction on to the nature of its backbone. Claims 1 and 2 are examples of the very many such references. It is believed to be clear that, under such circumstances, there is support for referring to carbonyl-containing polymers without restriction on the nature of their backbones. Claims 37-50, 62-78 and 72-73 are limited to carbonyl-containing polymers having non-aromatic backbones.

RCE (D)

The Examiner objected that there is no support for a metallic conductor. It is submitted that there is indeed such support on page 9, line 6 (page 10, line 6, of the published PCT specification), and in the Advisory Action, the Examiner agreed that this was the case.

RCE (E)

The Examiner objected that there is no support for a second layer comprising a blend of PVDF and of the PDF copolymer. The claims and the specification have been amended so that they no longer refer to the possibility of using a blend of PVDF and the PVDF copolymer, but only to the possibility of using PVDF or the VDF copolymer. However, it is noted for the record that although the claims no longer refer explicitly to blends of PVDF and the VDF copolymer, the claims do cover such blends when either the PVDF or the VDF copolymer is present in amount at least 50% by weight, based on the weight of the second polymeric composition.

RCE (F)

The Examiner objected that there is no support for the amendment requested in the paragraph 11 of the Reply mailed August 18, 2003 (the insertion of a paragraph about the meaning of various terms employed in the specification). That amendment has been canceled [see amendment 29 (RCE) above].

RCE (G)

The Examiner objected that there is no support for a carbonyl-containing polymer to be blended with "any other polymer", as in the amendment requested in paragraph 14 of the Reply mailed August 18, 2003. Similarly, the Examiner also rejected claims 31 and 37-46 for failure to comply with the written description requirement with respect to blends of the carbonyl-containing polymer with polyolefins other than high-density polyethylene.

The amendment requested in paragraph 14 of the Reply mailed August 18, 2003, has been canceled and replaced by a new amendment which does not refer to the possibility that the carbonyl-containing polymer is blended with "any other polymer" or with "polyolefins" in general; however, the new amendment does refer to the possibility that the carbonyl-containing polymer is blended with polyethylene, without restriction to high-density polyethylene [see amendments 32 (RCE) and 33 (RCE) above]. Similarly, claims 31 and 37 have been amended to replace the reference to polyolefins by reference to polyethylene; and the reference to polyethylene in claim 47 has not been changed.

It is submitted that there is clear support in PCT claim 8 for blending the carbonyl-containing polymer with polyethylene, without restriction to high-density polyethylene. PCT claim 8 reads as follows.

8. A wire or cable according to any preceding claims, wherein the polyolefin-based layer comprises a mixture of polyethylene and the said carbonyl-containing polymer

RCE (H)

The Examiner objected that there was no support for the last four lines of the amendment requested in paragraph 20 of the Reply mailed August 18, 2003, referring to the various possible combinations of the first and second layers.

The amendment in question has been replaced by a new amendment [see amendments 38 (RCE) and 39 (RCE) above]. In the new amendment, the passage to which the Examiner objected has been rewritten as follows.

The first layer can optionally be in direct contact with the conductor. The insulation can consist of a first layer as defined and a second layer as defined. The insulation can be multilayer insulation, for example multiple alternating layers of the first and second polymeric compositions.

It is submitted that the original disclosure provides support for this amendment as follows.

- (a) "The first layer can be in direct contact with the conductor".
 - (i) PCT Claim 19 states (emphasis added) that the "layer (i) is **pressure extruded onto the conductor**."
 - (ii) Claim 20 states (emphasis added) that the "layers (i) and (ii) are **coextruded or tandem extruded onto the wire**."
 - (iii) PCT Page 9, lines 1-6 (page 10, lines 1-6, of the published PCT specification), states (emphasis added) that "the inner layer of insulation . . . **was pressure extruded onto the metallic conductor**."

Thus, in each of these disclosures of an insulated wire of the invention, there is direct contact between the metallic conductor and the inner layer of insulation.

- (b) "the insulation can consist of a first layer as defined and a second layer as defined."
 - (i) PCT Claim 1 (and likewise claim 2) discloses (emphasis added) insulation "**comprising (i) at least a first layer (as defined) . . . in contact with (ii) at least a second layer (as defined)**". This is a disclosure of insulation comprising a single first layer and a single second layer; and since the term "comprising" is well understood to mean "consisting of or containing", it is also a disclosure of insulation consisting of a single first layer and a single second layer.
 - (ii) In the three specific examples of insulated wires disclosed on page 9 (page 10 of the published PCT specification), the insulation consists of a first layer as defined and a second layer as defined.
- (c) "The insulation can be multilayer insulation, for example multiple alternating layers of the first and second polymeric compositions."
 - (i) Page 1, lines 5-6. (Page 1, lines 6-7, of the published PCT specification) states (emphasis added) that "the invention is especially useful in **multilayer insulation** of electrical wires".

- (ii) Page 5, lines 18-27 (page 5, lines 22-31, of the published PCT specification) states (emphasis added) that "Examples include... dual or **multi-walled** extrusion... The layers ... could be coextruded, tandem extruded, **multi-pass extruded**, or coated by other means... pressured extrusion... is preferred for optimum adhesion of the second **and any subsequent insulation** layers to be applied to a pre-formed underlying layer."
- (iii) PCT Claim 12 states (emphasis added) "a wire . . . comprising **multiple alternating layers** of the materials constituting the said layers (i) and (ii)."

RCE (I)

The Examiner rejected claims 28-56 under 35 USC § 112 for failure to comply with the written description requirement, on the ground that there is no support in the original disclosure for non-polymeric components in the first and second layers. It is submitted that this rejection should be withdrawn in view of the facts and arguments set out in RCE (B) above.

RCE (J)

The Examiner also rejected claims 28-56 under 35 USC § 112 for failure to comply with the written description requirement, on the ground that there is no support in the original disclosure for a carbonyl-containing polymer that does not have a non-aromatic backbone. It is submitted that this rejection should be withdrawn in view of the facts and arguments set out in RCE (C) above.

RCE (K)

The Examiner also rejected claims 28-56 under 35 USC § 112 for failure to comply with the written description requirement, on the ground that there is no support in the original disclosure for a metallic conductor. As noted in RCE (D) above, the Examiner agreed, in the Advisory Action, to withdraw this rejection.

RCE (L)

The Examiner also rejected claims 28-56 under 35 USC § 112 for failure to comply with the written description requirement, on the ground that there is no support in the original disclosure for a blend of PVDF and the VDF copolymer. The Examiner also made a separate rejection on the same ground of claim 35. As noted in RCE (E) above, the amended claims do not refer explicitly to the possibility of using a blend of PVDF and the VDF copolymer, though they cover the use of such blends in which either the PVDF or the VDF copolymer is present in amount at least 50% of the weight of the second polymeric composition.

RCE (M)

The Examiner rejected claims 30 and 49 under 35 USC § 112 for failure to comply with the written description requirement, on the ground that there is no support in the original disclosure for immersing the wire in acetone to a depth of 4.2 mm. In amended claims 30 and 49, and in the corresponding passages in the specification [see amendments 36 (RCE) and 37 (RCE) above], the test procedure has been corrected so that it is in accordance with the original disclosure at page 5, lines 2-6 (page 5, lines 5-9, of the published PCT specification) and now specifies that the wire is immersed to a depth of 42 mm in the acetone bath (i.e. "to a depth of . . . 70% of the length of" the 60 mm long sample).

RCE (N)

The Examiner rejected claims 31 and 37-46 and 47-50 under 35 USC § 112 for failure to comply with the written description requirement on the ground that there is no support in the original disclosure for blending the carbonyl-containing polymer with any polyolefin other than high-density polyethylene. The amended claims (and the corresponding description) refer only to the possibility of pending the carbonyl-containing polymer with polyethylene, including but not limited to high-density polyethylene, for the reasons set out in RCE (G) above.

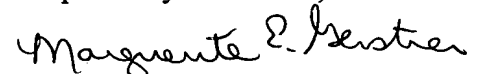
RCE (O)

The Examiner rejected claims 52 and 54 under 35 USC § 112 for failure to comply with the written description requirement on the ground that there is no support in the original disclosure for certain steps in these claims. However, the Examiner, in the Advisory Action, agreed that there was support for these claims.

CONCLUSION

It is believed that this application is now in condition for allowance, and Applicant respectfully requests that a timely Notice of Allowance be issued in this case. If, however, there are any outstanding issues that could usefully be discussed by telephone, the Examiner is asked to call the undersigned.

Respectfully submitted,



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